U.S. FOREST SERVICE

NORTHERN REGION

DIVISION OF STATE AND PRIVATE FORESTRY

INSECT AND DISEASE REPORT

Report No. 71-15

5230
October 1971

EVALUATION OF A MOUNTAIN PINE BEETLE AND DOUGLAS-FIR BEETLE INFESTATION ON THE COLVILLE NATIONAL FOREST, WASHINGTON

by

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Aerial detection surveys of the Colville National Forest during August 1971 indicated there was current damage by the mountain pine beetle, Dendroctonus ponderosae, on the Sullivan Lake Ranger District, and Douglas-fir beetle, Dendroctonus pseudotsugae, on the Republic Ranger District.

Scott Tunnock and Carl Puuri examined these infestations on September 1 and 2.

METHODS

The Bedard-Terrell[1/] formula was used to predict mountain pine beetle trends, and a ratio of 1970 killed trees to 1971 killed trees was used to determine the status of the Douglas-fir beetle infestation.

RESULTS

Heaviest damage by the mountain pine beetle was in the confines of the Gypsy Creek drainage (Fig. 1). Ninety-seven western white pines, Pinus monticola, with "red tops" were detected from the air. For every tree killed in 1970, there was one killed in 1971--a 1:1 ratio. Biological data was taken from 10 currently infested pines. The Bedard-Terrell formula was applied to this data and a biological index of 0.43 was derived. This means that 0.43 average size trees will be infested in 1972 for every one that was infested in 1971.

1/ Bedard, W. D., and T. T. Terrell. A method for predicting the trend of mountain pine beetle infestations in western white pine. Unpublished report on file at Intermountain Forest and Range Exp. Sta., USDA, Forest Service, Ogden, Utah, 1939.

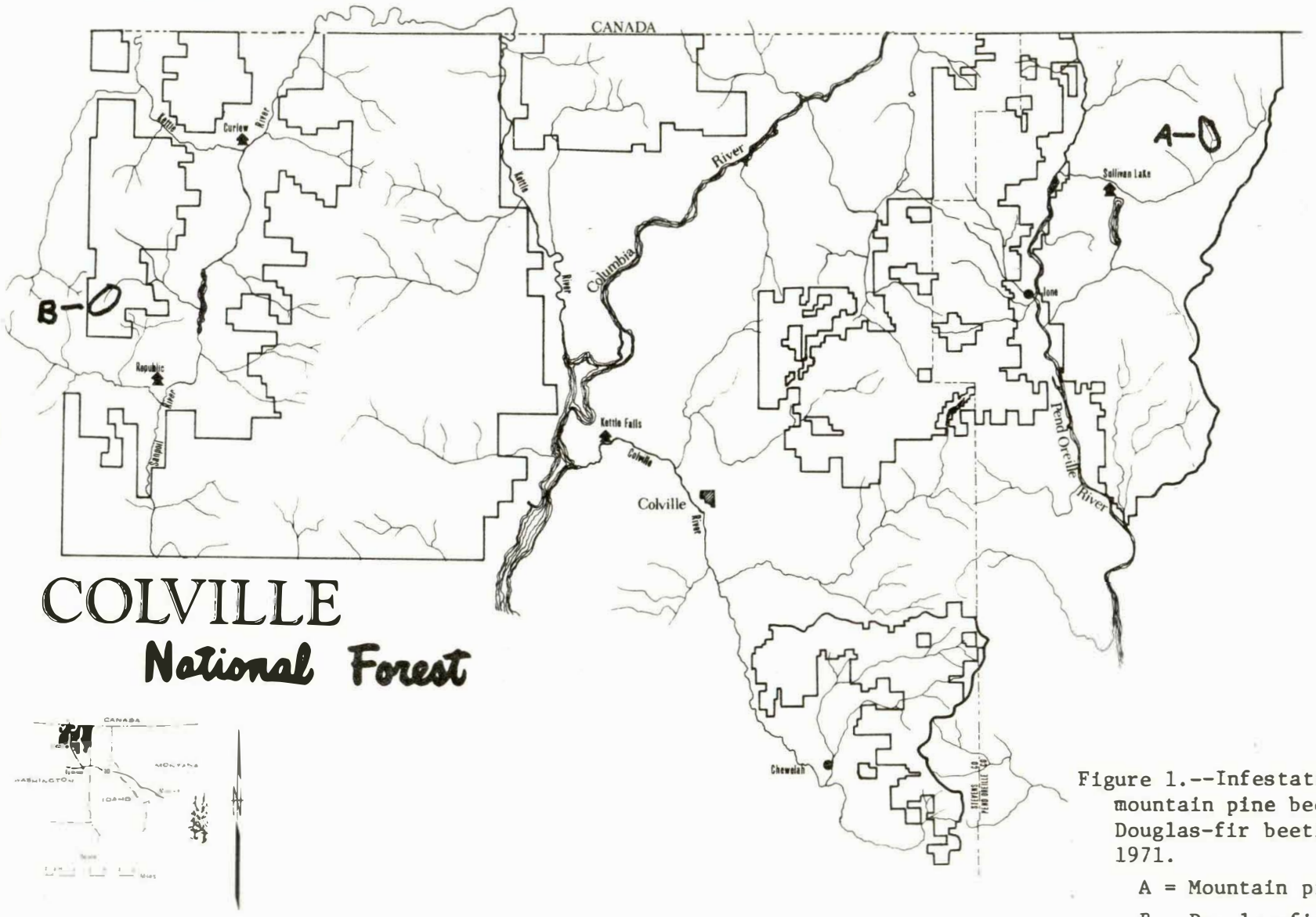

Figure 1.--Infestations of mountain pine beetle and Douglas-fir beetle during 1971.

A = Mountain pine beetle

B = Douglas-fir beetle